

Pictures Relating to Flood Conditions in
Southern California
March, 1938

Figures 1 and 2 illustrate practices adapted to the control of runoff and erosion. The basins in the walnut orchard (figure 1) are useful where it is not necessary to enter the orchard during the winter season. They are not adapted for citrus orchards. Figure 2 shows a young citrus orchard laid out with broad shallow furrows. 150 acres of citrus orchards were laid out with this type of furrow by the Division of Irrigation in the fall of 1937. They have proved very successful for the starting of a cover crop and controlling runoff and erosion. In this case a heavy mustard cover crop was disked under in January and new furrows made. With this type of furrow there was no serious damage even without the protection of cover.

The watershed of SanAntonio Creek shows in the background of figure 2. During the storm of March 2, floodwaters from these mountains overflowed stream banks and cut away the soil in adjacent orchards so that roots were exposed. Pictures were taken showing the root distribution of different crops in several soil types.

Figures 3 and 4 show the action of the stream within the canyon. Rocks and debris similar to that shown in these figures were scattered over the five miles of fan immediately below the mountains. Eight to ten miles away from the mountains the stream passes through sandy soil and there was much under-cutting of the banks in this section as indicated in figure 5.

Pictures Relating to Flood Conditions in
Southern California
March, 1938

Figures 1 and 2 illustrate practices adopted to the control of
runoff and erosion. The basin in the walnut orchard (figure 1)
are useful where it is not necessary to enter the orchard during the
winter season. They are not adapted for citrus orchards. Figure 3
shows a young citrus orchard laid out with broad shallow furrows.
150 acres of citrus orchards were laid out with this type of furrow
by the Division of Irrigation in the fall of 1937. They have proved
very successful for the starting of a cover crop and controlling
runoff and erosion. In this case a heavy mustard cover crop was disked
under in January and new furrows made. With this type of furrow there
was no serious damage even without the protection of cover.

The watershed of San Antonio Creek shows in the background of
figure 3. During the storm of March 3, floodwaters from these mountains
overflowed stream banks and cut away the soil in adjacent orchards
so that roots were exposed. Pictures were taken showing the root
distribution of different crops in several soil types.

Figures 3 and 4 show the action of the stream within the canyon.
Rocks and debris similar to that shown in these figures were scattered
over the five miles of fan immediately below the mountains. Eight to
ten miles away from the mountains the stream passes through sandy soil
and there was much under-cutting of the banks in this section as in-
dicated in figure 5.

The effect of some of this undercutting is shown in figure 6. The root system of a valencia orange tree was exposed in this cut. Note the depth of feeder roots. Also note the lack of feeder roots in the plow sole area in the upper center of the picture. Roots of another valencia orange orchard are shown in figure 7.

A cut through a navel orange orchard is shown in figure 8. The soil here is a Hanford stony sandy loam.

Figure 9 illustrate the root system of a grape plant in a Hanford sand. There are three feet of vertical stem and 15 feet of roots.

Figures 10 and 11 show the roots of walnut trees in Hanford fine sandy loam. Much of this undercutting was done after the main peak of the storm had passed. The channels were choked with freshly deposited material and the streams meandered against the banks undercutting and making wide arcs into adjoining land.

The effect of some of this undercutting is shown in figure 6. The root system of a Valencia orange tree was exposed in this cut. Note the depth of feeder roots. Also note the lack of feeder roots in the plow sole area in the upper center of the picture. Roots of another Valencia orange orchard are shown in figure 7. A cut through a navel orange orchard is shown in figure 8. The soil here is a Hanford stony sandy loam. Figure 9 illustrates the root system of a grape plant in a Hanford sand. There are three feet of vertical stem and 15 feet of roots. Figures 10 and 11 show the roots of walnut trees in Hanford fine sandy loam. Much of this undercutting was done after the main peak of the storm had passed. The channels were choked with freshly deposited material and the streams meandered against the banks undercutting and making wide arcs into adjoining land.



Basins on walnut orchard west of Pomona.

Photo taken by C. A. Taylor, February, 1938.



Flat furrows in Johnson young ² grapefruit orchard, E. 9th Street, Pomona, California. Furrows were laid out after cover crop was disked under in January. San Antonio water shed in background.

Photo taken by C. A. Taylor, March, 1938.



3

San Antonio Canyon, one mile up from mouth of canyon. Canyon water company's pipe line washed out by largest recorded flow.

Near Pomona, California. Photo taken by C. A. Taylor, March, 1938.



4

San Antonio Canyon at lower power house, two miles above the mouth of the canyon. Stream has taken a new channel. Debris covered bridge left standing and road fill gone.

Near Pomona, California. Photo taken by C. A. Taylor, March, 1938



5
San Antonio creek at Grand Avenue, Pomona, California, ten miles from mouth of canyon. Wide channel due to undercutting of soft sand bank.

Photo by C. A. Taylor, March, 1938.



6
Valencia orange trees with roots nine feet deep in Hanford fine sandy loam, Johnson orchard, southeast Pomona, California.

Photo taken by C. A. Taylor, March, 1938.

7



7

A nine foot cut through a valencia orchard
adjoining San Antonio Creek at San Bernardino
Ave., east of Pomona, California.

Photo taken by C. A. Taylor, March 11, 1938.



8
Cut six feet deep and 12 feet wide through navel orange orchard at San Bernardino Ave. at San Antonio wash east of Pomona, Calif. Pepper tree roots in immediate foreground.

Photo taken by C. A. Taylor, March 11, 1938.



9
Grapes in Hanford sand, Cucamonga wash north of U. P. track, east of Ontario, California. Three feet of stem and 15 feet of roots.

Photo taken by C. A. Taylor, March, 1938.





10

Forty-year old seedling walnut trees on Hanford fine sandy loam. Bassett Ranch on southeast bank of Walnut Creek, west of Puente, California.
March, 1938. By C. A. Taylor.



11

Forty-year old seedling walnut tree on southeast bank of Walnut creek. The root supported on blocks is 51 feet long and belongs to the tree that has toppled into the creek channel. The profusion of roots in the upper layers of soil is from an acacia tree.
West of Puente, California. March, 1938. C. A. Taylor

